

Analytical Proof of Concept for Integrating Bioassessment Results from Three State Probabilistic Monitoring Programs

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The integration of biological indicator results from the probabilistic monitoring designs of three neighboring states serves as a demonstration for what could be achieved nationwide under future implementation of the State-EPA Wadeable Streams Assessment. The U.S. Environmental Protection Agency (U.S. EPA) has developed methods for an estimate of stream conditions using a nationwide probabilistic monitoring design. This design uses state data only to supplement the analysis of reference condition and not for the overall assessment of stream condition. This study demonstrated the feasibility of combining data collected by different states that have already adopted probability-based monitoring designs. The states chosen were West Virginia, Virginia, and Maryland. Complicating factors included that these states were/are in various degrees of program implementation, so some analytical support to at least one state was required. The study included the evaluation of the monitoring designs in the three states, the field and laboratory methods for benthic macroinvertebrates, and the analytical approach for developing reference conditions and assessment thresholds. Full results will be presented, including the various adjustments needed to ensure the comparability of the data for a single assessment.